



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,443	12/22/2000	Fredrik Johansson	000254.00011	8925

22907 7590 04/03/2007
BANNER & WITCOFF, LTD.
1100 13th STREET, N.W.
SUITE 1200
WASHINGTON, DC 20005-4051

EXAMINER

MILLS, DONALD L

ART UNIT	PAPER NUMBER
----------	--------------

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/742,443

Applicant(s)

JOHANSSON ET AL.

Examiner

Donald L. Mills

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 68-70, 72, 73 and 93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 68-70, 72, 73 and 93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 14 December 2006 has been entered.

Claim Objections

2. Claim 68 is objected to because of the following informalities:

Regarding claim 68, lines 3-5, "forwarding a datagram from a correspondent node to a mobile node using a shortest path between the mobile node and the correspondent node, wherein the mobile node is a in a mobile IP visiting network having a mobile IP protocol," is merely a recitation of intended use and therefore does not maintain any patentable weight. Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 68-70, 72, and 73 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claim 68, the claim merely recite a data structure, for example, a routing entry (See lines 7-14.) The data structure is a mere arrangement of data, independent of physical data. The data structure does not represent a process, machine, manufacture, or composition of matter. The claim merely manipulates an abstract idea without producing a “useful, concrete and tangible result;” therefore, claims 68-70, 72, and 73 are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 68-70, 72, 73, and 93 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 68, the correlation between “forwarding a datagram” and “the registration process” (See claim 68, lines 6-14,) is unclear from the context of the claim. A transitional statement clarifying the interdependent relationship between the two limitations should be set forth.

Regarding claim 93, like claim 68, the correlation between each limitation (“forwarding a datagram,” “registration,” “routing table,” “distributing routes,” and “lowered routing costs,”) is unclear from the context of the claim. A transitional statement clarifying the interdependent relationship between each imitation should be set forth. Appropriate correction is required.

Claim Rejections - 35 USC § 102

Art Unit: 2616

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 68 and 69 are rejected under 35 U.S.C. 102(a) as being anticipated by Perkins et al. (“Route Optimization in Mobile IP,”) hereinafter referred to as Perkins.

Regarding claim 68, Perkins discloses route optimization in Mobile IP networks which bypasses the mobile node’s home agent, which comprises:

Forwarding a datagram from a correspondent node to a mobile node using a shortest path between the mobile node and the correspondent node, wherein the mobile node is in a mobile IP visiting network having a mobile IP protocol; registering the mobile node with the mobile IP visiting network; and adding a routing entry to a routing table in a mobile IP foreign agent, wherein the route entry includes: a destination address comprising an address for a home network of the mobile node; a nexthop value comprising a local interface to which the mobile node is attached; and a routing cost comprising a value lower than all other routes available to the mobile node (The Examiner interprets the claim as relating to the traditional route optimization process, since the physical relationship between the mobile node, correspondent node, foreign agent, and home agent is not expressed. And, based upon a broad literal and reasonable interpretation of the claim the manner in which the correspondent node forwards datagrams via static routes is only one of the many possible interpretations. Therefore the Examiner interprets the claim merely as the traditional tunneling mechanisms since the optimized path of Perkins can be considered the “shortest route”. More specifically, Perkins

Art Unit: 2616

defines route optimization messages and extensions to the base protocol to optimize datagram routing to a mobile node. Using the protocol extensions, correspondent nodes may caches the binding of a mobile node, and then tunnel their datagrams for the mobile node directly to the care-of-address, bypassing the mobile node's home agent. Extensions allow datagrams in flight when a mobile nodes moves, and datagrams sent based on an out-of-date cached binding, to be forwarded directly to the mobile node's new binding. When the mobile node moves a binding is established with the foreign agent and routing entry created, which comprises the home agent of the mobile node, the nexthop of a local interface, and an optimized routing cost which permits the routing of the message directly to the care-of-address. See page 1, paragraphs 1-4.)

Regarding claim 69, Perkins discloses *routing the datagram based on the destination address* (Perkins defines route optimization messages and extensions to the base protocol to optimize datagram routing to a mobile node. Using the protocol extensions, correspondent nodes may caches the binding of a mobile node, and then tunnel their datagrams for the mobile node directly to the care-of-address, bypassing the mobile node's home agent. See page 1, paragraphs 1-4.)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2616

10. Claim 70, 72, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins ("Route Optimization in Mobile IP,") in view of La Porta et al. (US 6,434,134 B1), hereinafter referred to as La Porta.

Regarding claim 70 as explained in rejection statement of claim 68, Perkins discloses all of the claim limitations of claim 68 (parent claim).

Perkins does not disclose *using a routing protocol comprising one of Open Shortest Path First and Border Gateway Protocol.*

La Porta teaches routing path setup messages using routing entries created by conventional routing protocols, such as Open Shortest Path First (See column 18, lines 42-46.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the convention routing protocol of La Porta in the system of Perkins. One of ordinary skill in the art at the time of the invention would have been motivated to do so in order to achieve a fast, simple, and straightforward method and system of establishing routing entries as taught by La Porta (See column 18, lines 42-46.)

Regarding claim 72, the primary reference further teaches *routing the datagram based on the destination address, wherein the step of routing the datagram comprises performing source-restricted destination address routing* (Perkins defines route optimization messages and extensions to the base protocol to optimize datagram routing to a mobile node. Using the protocol extensions, correspondent nodes may caches the binding of a mobile node, and then tunnel their datagrams for the mobile node directly to the care-of-address, bypassing the mobile node's home agent, which the Examiner interprets as "source-restricted destination address routing." See page 1, paragraphs 1-4.)

Regarding claim 73, the primary reference further teaches *wherein a route of the datagram is not propagated to a router using a routing protocol* (Perkins defines route optimization messages and extensions to the base protocol to optimize datagram routing to a mobile node. Using the protocol extensions, correspondent nodes may cache the binding of a mobile node, and then tunnel their datagrams for the mobile node directly to the care-of-address, bypassing the mobile node's home agent. Extensions allow datagrams in flight when a mobile node moves, and datagrams sent based on an out-of-date cached binding, to be forwarded directly to the mobile node's new binding. In this case bindings are updated and therefore does not use a routing protocol. See page 1, paragraphs 1-4.)

Allowable Subject Matter

11. Claim 93 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Response to Arguments

12. Applicant's arguments with respect to claims 68-70, 72, 73, and 93 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.

Art Unit: 2616

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Donald L Mills

DLM

March 30, 2007

Seema S. Rao
SEEMA S. RAO 4/2/07
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800